As stated in MPEP §§ 2142-2144.04, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some reason to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Independent claim 1 recites a semiconductor device comprising: a pixel portion (e.g. Embodiment Mode 1, Figure 6, 100) comprising a plurality of pixels (e.g. Embodiment Mode 1, Figure 6, 101; or Embodiment 3, Figure 10, pixel (e.g. i, j); note: "it is possible to freely combine embodiment 3 with embodiment modes 1 to 3, and with embodiments 1 and 2"); a first circuit (e.g. Embodiment Mode 1, Figure 2A, 2B, e.g., 103a, the signal line driver circuit); and a second circuit (e.g. Embodiment Mode 1, Figure 2A, 2B, e.g., 103b, the output switching circuit), wherein each of the plurality of pixels comprises a sensor portion (e.g. Embodiment 3, Figure 10, 271) and a liquid crystal element portion (e.g. Embodiment 3, Figure 10, 261), wherein the first circuit is configured to output a timing signal to the second circuit (e.g. paragraphs [0071]-[0073]), and wherein the second circuit is configured to select the sensor portion or the liquid crystal element portion based on the

timing signal such that the sensor portion is not selected when the liquid crystal element portion is selected, and the liquid crystal element portion is not selected when the sensor portion is selected.

Independent claims 2 and 4 recite "wherein the second circuit is so configured that only one of the first logical circuit and the second logical circuit outputs a pulse signal based on the timing signal to the pixel portion, such that the sensor portion is not selected when the light emitting element portion is selected, and the light emitting element portion is not selected when the sensor portion is selected."

Independent claims 3 and 5 recite "wherein the second circuit is so configured that only one of the first logical circuit and the second logical circuit outputs a pulse signal based on the timing signal to the pixel portion, such that the sensor portion is not selected when the liquid crystal element portion is selected, and the liquid crystal element portion is not selected when the sensor portion is selected."

Independent claim 6 recites "wherein the second circuit is so configured that, when only one of the first logical circuit and the second logical circuit outputs a non-selection signal to one of the first TFT and the second TFT, the other of the first logical circuit and the second logical circuit outputs a selection signal based on the timing signal to the other of the first TFT and the second TFT, such that the sensor portion is not selected when the light emitting element portion is selected, and the light emitting element portion is not selected when the sensor portion is selected." Independent claim 7 recites "wherein the second circuit is so configured that, when only one of the first logical circuit and the second logical circuit outputs a non-selection signal to one of the first TFT and the second TFT, the other of the first logical circuit and the second logical circuit outputs a selection signal based on the timing signal to the other of the first TFT and the second TFT, such that the sensor portion is not selected when the liquid crystal element portion is selected, and the liquid crystal element portion is not selected when the sensor portion is selected."

Independent claim 100 recites "wherein the second circuit is configured to select the sensor portion or the light emitting element portion based on the timing signal, such that the sensor portion is not selected when the light emitting element portion is selected, and the light emitting element portion is not selected when the sensor portion is selected." Independent claim 101 recites "wherein the second circuit is configured to select the sensor portion or the liquid crystal element portion based on the timing signal, such that the sensor portion is not selected when the liquid crystal element portion is selected, and the liquid crystal element portion is not selected when the sensor portion is selected."

The advantages of the first and second circuits are, for example, as follows: "[a] semiconductor device that has been made smaller and thinner can be provided by forming the light emitting elements and the photoelectric conversion elements on the same substrate" (paragraph [0012]) and "[t]he photodiodes 225 of the sensor portion 221 do not function in the case of the display mode, and the semiconductor device of the present invention possesses a function which is similar to that of a normal display device" (paragraph [0097]), which is claimed, for example, in the last "wherein" clause of claim 1. For the reasons provided below, Chiyou and Kubota, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

The Official Action asserts that Chiyou discloses a pixel portion (Figure 10), a first circuit ("all shift registers that are part of the drivers are considered the first circuit"), wherein each pixel comprises a sensor portion (1001) and a liquid crystal element portion (1002). The Official Action concedes that Chiyou does not teach the claimed second circuit. Kubota is relied upon to allegedly teach the claimed second circuit in Figure 75.

The Official Action newly concedes that Chiyou and Kubota fail to teach the features added in the previously filed *Amendment* (page 4, Paper No. 20100611), i.e. "wherein the second circuit is configured to select the sensor portion or the liquid crystal

element portion based on the timing signal such that the sensor portion is not selected when the liquid crystal element portion is selected, and the liquid crystal element portion is not selected when the sensor portion is selected." The Official Action asserts that that Chiyou in view of Kibota "instead teaches that the display and sensing elements operate simultaneously *and* independently" (Id.; emphasis in original). However, the Official Action does not appear to provide any evidence in support of this position.

The Official Action newly relies on Official Notice to teach that it is well known "to operate *independent* display and sensor portions as claimed specifically that the sensor portion is not selected when the light emitting portion is selected, and the light emitting element portion is not selected when the sensor portion is selected" and that "[i]t would have been obvious ... to allow the sensor and the display to operate independently and exclusively from each other in order to save power" (Id.; emphasis in original).

This feature, i.e. "wherein the second circuit is configured to select the sensor portion or the liquid crystal element portion based on the timing signal such that the sensor portion is not selected when the liquid crystal element portion is selected, and the liquid crystal element portion is not selected when the sensor portion is selected," appears to represent a clear difference between the present invention and the alleged combination of Chiyou and Kubota. Rather than present actual teachings of the features, the Official Action appears to rely on Official Notice and asserts that the features are merely obvious variations of Chiyou and Kubota.

Regarding use of Official Notice, MPEP § 2144.03.A states the following: "It would not be appropriate for the Examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known." Also, the CCPA explicitly rejected "the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice." See also MPEP § 2144.03.B, which is titled "If Official Notice Is Taken of

a Fact, Unsupported by Documentary Evidence, the Technical Line Of Reasoning Underlying a Decision To Take Such Notice Must Be Clear and Unmistakable" and MPEP § 2144.03.C, which is titled "If Applicant Challenges a Factual Assertion as Not Properly Officially Noticed or not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding With Adequate Evidence." In the present application, the Applicant respectfully submits that the Official Action has not shown that the features missing from Chiyou and Kubota, i.e. "wherein the second circuit is configured to select the sensor portion or the liquid crystal element portion based on the timing signal such that the sensor portion is not selected when the liquid crystal element portion is selected, and the liquid crystal element portion is not selected when the sensor portion is selected," are capable of instant and unquestionable demonstration as being well-known. In accordance with MPEP § 2144.03, the Applicant respectfully traverses the above-referenced assertions and requests that the Examiner cite references in support of his position or allow the claims.

Therefore, the Applicant respectfully submits that Chiyou and Kubota, either alone or in combination, do not teach or suggest the last "wherein" clause of each of the present independent claims.

Since Chiyou and Kubota do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained.

Furthermore, there is no proper or sufficient reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Chiyou and Kubota or to combine reference teachings to achieve the claimed invention. MPEP § 2142 states that the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. It is respectfully submitted that the Official Action has failed to carry this burden. While the Official Action relies on various teachings of the cited prior art to disclose aspects of the claimed invention and asserts that these aspects could be used together, it is submitted that the Official Action

does not adequately set forth why one of skill in the art would combine the references to achieve the features of the present invention.

The test for obviousness is not whether the references "could have been" combined or modified as asserted in the Official Action, but rather whether the references should have been. As noted in MPEP § 2143.01, "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art" (emphasis in original). KSR International Co. v. Teleflex Inc., 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007). Thus, it is respectfully submitted that the standard set forth in the Official Action is improper to support a finding of *prima facie* obviousness.

The Official Action concedes that "Chiyou fails to teach a second circuit as claimed" (page 4, Paper No. 20100611). The Official Action relies on Kubota and Official Notice (discussed above) to allegedly teach the second circuit as claimed. Without any specific references to Chiyou or Kubota in support and without establishing the level of ordinary skill in the art at the time of the present invention, the Official Action asserts that "[i]t would have been obvious ... to allow the sensor and the display to operate independently and exclusively from each other in order to save power" (Id.). The Applicant respectfully disagrees and traverses the above assertions in the Official Action.

The Official Action has not clearly set forth reasons why one would have necessarily added the circuits of Figure 75 of Kubota into the device of Figure 10 of Chiyou, where Kubota's circuits would be inserted, that Kubota's circuits would necessarily function in Chiyou's device, that Kubota's circuits necessarily result in the selection of the sensor and liquid crystal element portions in accordance with the final wherein clause of claim 1, and that the Examiner's proposed modifications do not, in fact, change the principle of operation of the underlying references.

It is not clear how the addition of the circuits of Figure 75 of Kubota necessarily result in power savings, as asserted in the Official Action. Although Kubota is

concerned with "low consumption of power," such advantages appear to be achieved by practicing Kubota as a whole, not by adding circuits from Figure 75 to another device.

Figure 75 of Kubota is concerned with a scanning signal line drive circuit in a liquid crystal display and does not appear to be concerned with a sensor portion at all. As such, it is not clear why one of ordinary skill in the art at the time of the present invention would have necessarily used the circuits of Figure 75 to operate a sensor portion.

Therefore, the Applicant respectfully submits that the Official Action has not provided a proper or sufficient reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Chiyou and Kubota or to combine reference teachings to achieve the claimed invention.

In the present application, it is respectfully submitted that the prior art of record, either alone or in combination, does not expressly or impliedly suggest the claimed invention and the Official Action has not presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

For the reasons stated above, the Official Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

The Official Action rejects claims 62-67 as obvious based on the combination of Chiyou, Kubota and U.S. Patent No. 6,246,180 to Nishigaki. Please incorporate the arguments above with respect to the deficiencies in Chiyou and Kubota. Nishigaki does not cure the deficiencies in Chiyou and Kubota. The Official Action relies on Nishigaki to allegedly teach the features of the above-referenced dependent claims. Specifically, the Official Action relies on Nishigaki to allegedly teach "an LED type matrix display which uses a selection TFT, a driver TFT, and a reset TFT" (page 10, Paper No. 20100611). However, Chiyou, Kubota and Nishigaki, either alone or in combination, do not teach or suggest that Chiyou and Kubota should be modified to include the last

"wherein" clause of each of the present independent claims; why one would have necessarily added the circuits of Figure 75 of Kubota into the device of Figure 10 of Chiyou; or why one of ordinary skill in the art at the time of the present invention would have necessarily used the circuits of Figure 75 to operate a sensor portion. Since Chiyou, Kubota and Nishigaki do not teach or suggest all the claim limitations and since there is insufficient reason to combine Chiyou, Kubota and Nishigaki, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized to charge fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(a), 1.20(b), 1.20(c), and 1.20(d) (except the Issue Fee) which may be required now or hereafter, or credit any overpayment to Deposit Account No. 50-2280.

Respectfully submitted,

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